LE QUANTIQUE DU QUANTIQUE

CLAUDE PAQUET



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éclatement baryonique, nébuleuse épectase
son inconnaissance vient de l'éclat aveuglant de son implosion
essence suressentielle, intelligence inintelligible, paradoxe ineffable

par diffusion, le chaos persuade
la matière informe de prendre des formes.
soleil sensible, corps intelligible
l'ontologie scalaire se manifeste

lux lumen fontana universi fiat lux
res naturæ subsistencia hypostasis
émanation de lumière substance diaphane
effluve d'entéléchie charge des couleurs

$$\iiint dP(\vec{r},t) \;=\; \iiint |\Psi(\vec{r},t)|^2 \; dV \;=\; 1$$

l'empyrée quantique élémentaire
méson baryon hadron
chromodynamique quantique rouge bleu vert
antiquark anti-charge antibleue antiverte antirouge

méson quark-antiquark
bleue -antibleue verte-antiverte rouge-antirouge
baryon trois antiquarks antibleu antivert antirouge
hadron blanc intrication neutre

positron électron matière antimatière
299.792.458 m.s-1

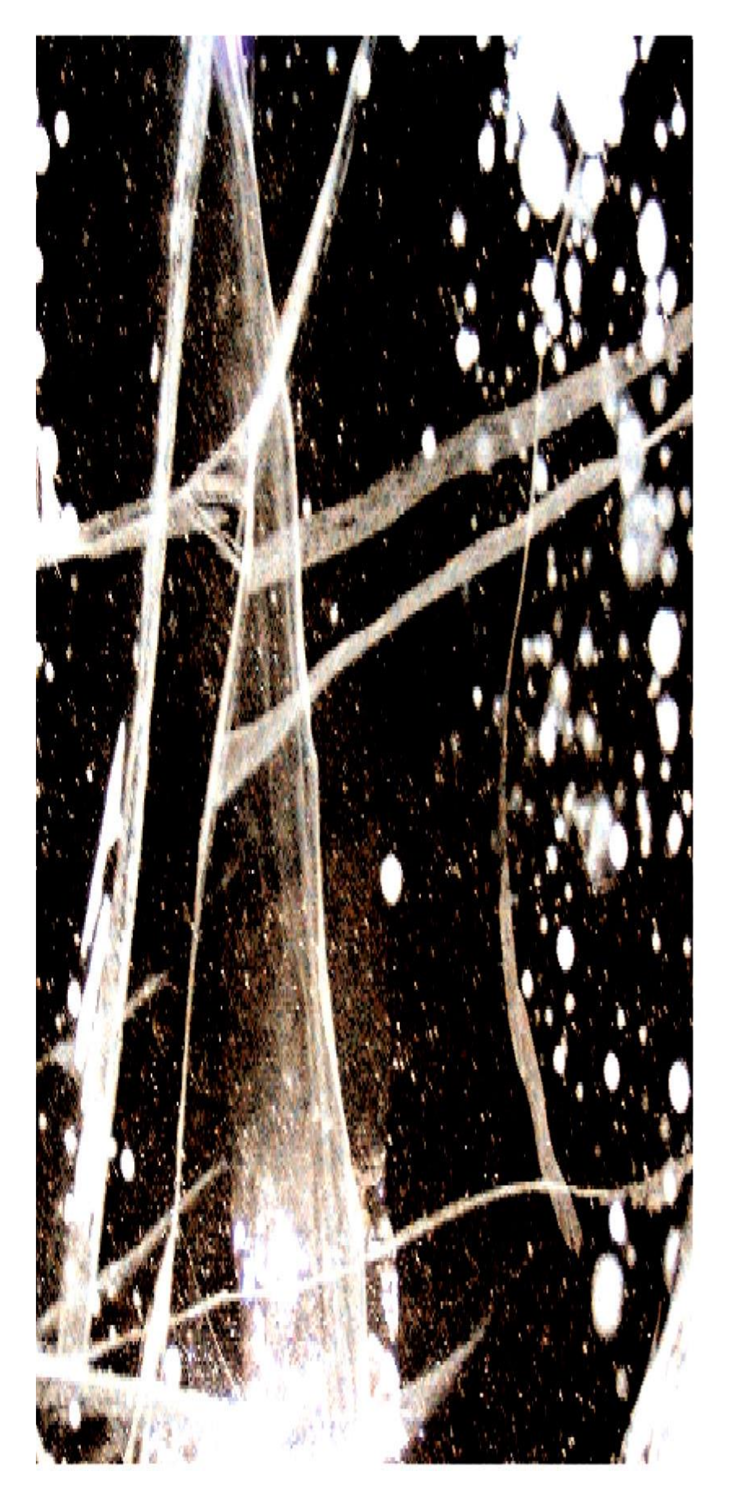




$p + n - D + \gamma$ (γ : photon)
$D + n - {}^{3}H + \gamma$
$D + p - {}^{3}He + \gamma$
$D + D - {}^{3}H + p$
$D + D - {}^{3}He + n$
$D + D - {}^{4}He + \gamma$
${}^{3}H + p - {}^{4}He + \gamma$
${}^{3}He + n - {}^{3}H + p$
${}^{3}He + n - {}^{4}He + \gamma$
${}^{3}H + D - {}^{4}He + n$
${}^{3}He + D - {}^{4}He + p$
${}^{3}He + {}^{3}He - {}^{4}He + 2p$
${}^{4}He + D - {}^{6}Li + \gamma$
${}^{4}He + {}^{3}H - {}^{7}Li + \gamma$
${}^{4}He + {}^{3}He - {}^{7}Be + \gamma$
${}^{6}Li + n - {}^{7}Li + \gamma$
${}^{6}Li + p - {}^{7}Be + \gamma$
${}^{7}Li + p - {}^{4}He + \gamma$
${}^{7}Be + n - {}^{7}Li + p$
${}^{7}Be + e^{-} - {}^{7}Li + \gamma$

$$n + \nu_e \leftrightarrow p + e^-$$
$$n + e^+ \leftrightarrow p + \nu_e$$
$$n \leftrightarrow p + e^- + \overline{\nu_e}$$

$$\frac{n_p}{n_n} = e^{-\frac{E_p - E_n}{kT}} = e^{-\frac{\Delta mc^2}{kT}}$$



BRA

$$\langle\phi| = \begin{pmatrix}\phi_1\\ \phi_2\\ \vdots\\ \phi_N\end{pmatrix}_{\epsilon^*} = \begin{bmatrix}\phi_1 & \phi_2 & \cdots & \phi_N\end{bmatrix} \cdot \begin{bmatrix}\langle u_1|\\ \langle u_2|\\ \vdots\\ \langle u_N|\end{bmatrix}$$

KET

$$|\psi\rangle = \begin{pmatrix}\psi_1\\ \psi_2\\ \vdots\\ \psi_N\end{pmatrix}_{\epsilon} = \begin{bmatrix}\psi_1\\ \psi_2\\ \vdots\\ \psi_N\end{bmatrix} \cdot \begin{bmatrix}|u_1\rangle & |u_2\rangle & \cdots & |u_N\rangle\end{bmatrix}$$

$$\dim(\epsilon) = \dim(\epsilon^*) = N,$$

$$\langle\phi| = \sum_{n=1}^{N} \phi_n \cdot \langle u_n|,$$

$$|\psi\rangle = \sum_{n=1}^{N} \psi_n \cdot |u_n\rangle.$$

$$\langle\phi|\psi\rangle = \left(\begin{pmatrix}\phi_1\\ \phi_2\\ \vdots\\ \phi_N\end{pmatrix}_{\epsilon^*}, \begin{pmatrix}\psi_1\\ \psi_2\\ \vdots\\ \psi_N\end{pmatrix}_{\epsilon}\right) = \begin{bmatrix}\phi_1 & \phi_2 & \cdots & \phi_N\end{bmatrix} \cdot \begin{bmatrix}\psi_1\\ \psi_2\\ \vdots\\ \psi_N\end{bmatrix} = \sum_{n=1}^{N} \phi_n \cdot \psi_n$$

$$\hbar^2 \frac{\partial^2 \Psi(\vec{r},t)}{\partial t^2} = -\hbar^2 c^2 \Delta \Psi(\vec{r},t) + m^2 c^4 \Psi(\vec{r},t) \frac{\partial^2 \Psi(\vec{r},t)}{\partial t^2} = -\hbar^2 c^2 \Delta \Psi(\vec{r},t) + m^2 c^4$$

$$\langle\phi|\psi\rangle = \left(\begin{pmatrix} \phi_1 \\ \phi_2 \\ \vdots \\ \phi_N \end{pmatrix}_{\epsilon^*}, \begin{pmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{pmatrix}_{\epsilon} \right) = \begin{bmatrix} \phi_1 & \phi_2 & \cdots & \phi_N \end{bmatrix} \cdot \begin{bmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{bmatrix} = \sum_{n=1}^{N} \phi_n \cdot \psi_n \langle\phi| = \begin{pmatrix} \phi_1 \\ \phi_2 \\ \vdots \\ \phi_N \end{pmatrix}_{\epsilon^*} = [\phi_1 = \left(\begin{pmatrix} \phi_1 \\ \phi_2 \\ \vdots \\ \phi_N \end{pmatrix}_{\epsilon^*}, \begin{pmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{pmatrix}_{\epsilon} \right) =$$

$$\frac{1}{\sqrt{3}} [\phi_1(r_1)\phi_2(r_2)\phi_2(r_3) + \phi_2(r_1)\phi_1(r_2)\phi_2(r_3) + \phi_2(r_1)\phi$$

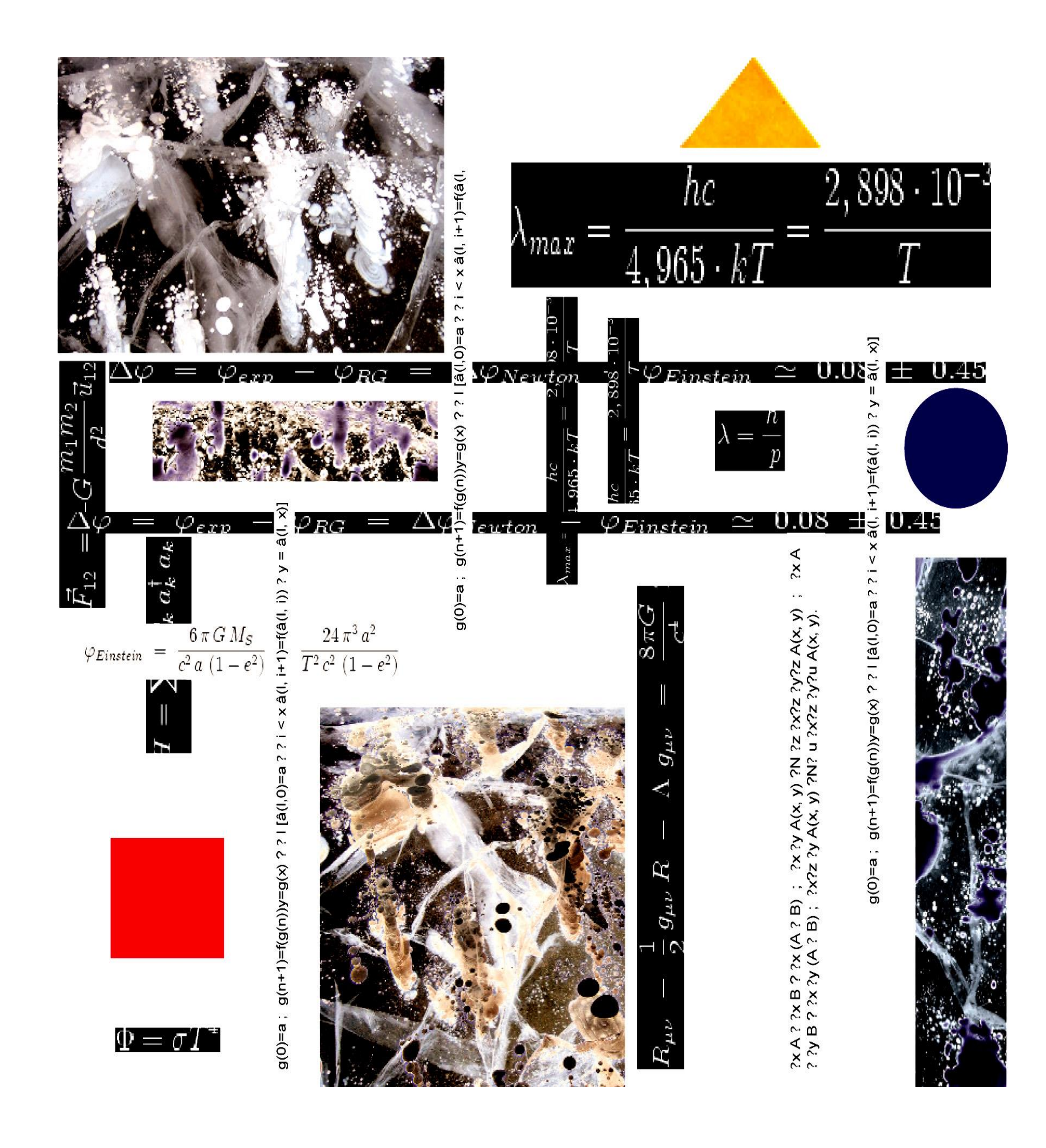
$$r_2)\phi_2(r_3) + \phi_2(r_1)\phi_1(r_2)\phi_2(r_3) + \phi_2(r_1)\phi_2(r_2)\phi_1(r_3)]$$

$$|\psi\rangle = \begin{pmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{pmatrix}_{\epsilon} = \begin{bmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{bmatrix} \cdot \begin{bmatrix} |u_1\rangle & |u_2\rangle & \cdots & |u_N\rangle \end{bmatrix} \langle\phi| = \begin{pmatrix} \phi_1 \\ \phi_2 \\ \vdots \\ \phi_N \end{pmatrix}_{\epsilon^*} = \begin{bmatrix} \phi_1 & \phi_2 & \cdots & \phi_N \end{bmatrix} \cdot \begin{bmatrix} \langle u_1| \\ \langle u_2| \\ \vdots \\ \langle u_N| \end{bmatrix} \rangle = \begin{pmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{pmatrix}_{\epsilon} = \begin{bmatrix} \psi_1 \\ \psi_2 \\ \vdots \\ \psi_N \end{bmatrix} \cdot [|u_1$$

$$R_{\mu\nu} - \frac{1}{2} g_{\mu\nu} R - \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu} \hbar^2 \frac{\partial^2 \Psi(\vec{r},t)}{\partial t^2} = -\hbar^2 c^2 \Delta \Psi(\vec{r},t) + m^2 c^4 \Psi(\vec{r},$$

$$A \cdot \Delta B \geq \frac{1}{2} \left| \left\langle \left[\hat{A}, \hat{B} \right] \right\rangle_\gamma \right| - \hbar^2 \frac{\partial^2 \Psi(\vec{r},t)}{\partial t^2} = -\hbar^2 c^2 \Delta \Psi(\vec{r},t) + m^2 c^4 \Psi(\vec{r},t)$$

$$R - \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu} - \hbar^2 \frac{\partial^2 \Psi(\vec{r},t)}{\partial t^2} = -\hbar^2 c^2 \Delta \Psi(\vec{r},t) + m^2 c^4 \Psi(\vec{r},t)$$



$\lambda_{max} = \frac{hc}{4,965 \cdot kT} = \frac{2,898 \cdot 10^{-3}}{T}$
$\Delta\varphi = \varphi_{exp} - \varphi_{RG} = \Delta\varphi_{Newton} - \varphi_{Einstein} \simeq 0.08 \pm 0.45$
$\vec{F}_{12} = -G \frac{m_1 m_2}{d2} \vec{u}_{12}$
$\lambda = \frac{h}{p}$
$\varphi_{Einstein} = \frac{6\pi G M_S}{c^2 a (1-e^2)} \quad \frac{24\pi^3 a^2}{T^2 c^2 (1-e^2)}$
$R_{\mu\nu} - \frac{1}{2} g_{\mu\nu} R - \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4}$
$\Phi = \sigma T^4$
g(0)=a ; g(n+1)=f(g(n))y=g(x) ? ? I [â(I,0)=a ? ? i < x â(I, i+1)=f(â(I, i)) ? y = â(I, x)]
?x A ? ?x B ? ?x (A ? B) ; ?x ?y A(x, y) ?N ?z ?x?z ?y?z A(x, y) ; ?x A
? ?y B ? ?x ?y (A ? B) ; ?x?z ?y A(x, y) ?N? u ?x?z ?y?u A(x, y).





